

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6785

Petition of Vermont Electric Cooperative, Inc.)
for a certificate of public good authorizing the)
replacement of five existing 333 kVA)
transformers with three larger 833 kVA)
transformers at VEC's Substation located on)
Vermont Route 118 in the Town of Eden,)
Vermont)

Order entered: 1/29/2003

I. INTRODUCTION

This case involves a petition filed by Vermont Electric Cooperative, Inc. ("VEC") on October 29, 2002, requesting a certificate of public good ("CPG") under 30 V.S.A. § 248(j) for the replacement of five transformers and related facilities at its existing substation located in Eden, Vermont.

VEC served the petition, prefiled testimony, proposed findings, and a proposed order (along with a prospective CPG) on the Public Service Board ("Board"), the Vermont Department of Public Service ("DPS") and the Vermont Agency of Natural Resources ("ANR"), as specified in 30 V.S.A. § 248(a)(4)(C), pursuant to the requirements of 30 V.S.A. § 248(j)(2).

Notice of the filing in this docket was sent on December 9, 2002, to all parties specified in 30 V.S.A. § 248(a)(4)(C) and all other interested persons. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 must file the comments with the Board on or before January 13, 2003. Notice of the filing, with a request for comments on or before January 13, 2003, was also published in the *Burlington Free Press* on December 16 and 23, 2002.

The ANR filed a letter with the Board on January 13, 2003, stating that the proposed project does not appear to raise any significant concerns for the ANR pursuant to 30 V.S.A. § 248(b)(5).

The DPS filed a Determination under 30 V.S.A. § 202(f) on January 14, 2003.

No comments were received from any other parties or interested persons.

The Board has reviewed the petition and accompanying documents and agrees that, pursuant to 30 V.S.A. § 248(j), a CPG should be issued without the notice and hearings otherwise required by 30 V.S.A. § 248.

II. FINDINGS

Based upon the petition and accompanying documents, the Board hereby makes the following findings in this matter.

1. VEC is a corporation duly organized and existing under the laws of the State of Vermont whose principal place of business is 182 School Street, Johnson, Vermont. Pet. at 1.

2. VEC owns and operates a 34.5/12.47/7.2 kV distribution substation ("Eden Substation") on Vermont Route 118 in the town of Eden, Vermont. The Eden Substation serves VEC's members in portions of the towns of Eden, Hyde Park and Johnson. All power leaves the substation at 12.47/7.2 kV and is consumed entirely by VEC members located in this geographical area. The Eden Substation receives power at 34.5 kV from a Central Vermont Public Service Corporation ("CVPS") transmission line. VEC's Eden Substation contains five single-phase transformers rated at 333 kVA each to reduce the voltage level from 34.5 kV to 7.2 kV. Abendroth pf. at 3.

3. VEC is proposing to replace the five existing 333 kVA transformers with three larger transformers rated at 833 kVA each. The proposed new transformers will be placed on the same transformer pads as the existing transformer. Abendroth pf. at 3-5.

4. Two of the existing 333 kVA transformers supply energy to the "A" phase of the distribution system. One 333 kVA transformer supplies energy to the "B" phase of the distribution system and two 333 kVA transformers supply energy to the "C" phase of the distribution system. Upon completion of the proposed project, one transformer rated at 833 kVA will serve each of the three phases of the distribution system. Abendroth pf. at 3.

5. The highest peak load experienced by the Eden Substation was 1,717 kVA in February 2000. The most recent summer peak load was 1,376 kVA and occurred in July 2002. The most recent winter peak was 1,584 kVA and occurred in January 2002. Load growth in the area served

by the Eden Substation has averaged 0.9% over the last three years, and has been consistent with the population growth in the area served by this substation. Future load growth is expected to be consistent with the area's projected population growth, which over the next several years is expected to average 0.9% annually. Abendroth pf. at 4.

6. The five existing 333 kVA substation transformers are between 46 and 48 years old and have operated far beyond their expected useful operating life. Due to the age of these transformers and the load presently carried by them, VEC has concluded that replacement of the existing transformers with new units of larger capacity is required to adequately serve its members' present and future energy needs. Abendroth pf. at 4.

7. For the required capacity of VEC's Eden Substation, transformer manufacturers presently offer single-phase substation transformers rated at 333 kVA and 833 kVA. Replacement "in-kind" with new 333 kVA transformers will not provide sufficient capacity. The nominal total substation capacity is 1,665 kVA. However, the three phases of the distribution system supplied by the Eden Substation are not evenly loaded and, as a result, the useable capacity of the substation is significantly less than the nominal capacity. This is due to the physical arrangement of VEC's distribution system and normal load variations on the system throughout the year. As a result, the individual transformers reach overload conditions when the total load on the substation reaches approximately 1,400 kVA, or approximately 84% of nominal substation capacity. VEC has been able to live with the overload conditions identified above because they generally occur in the winter, when the low ambient temperatures help dissipate heat produced from transformer operation. Abendroth pf. at 4-5.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

8. The proposed project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 9 through 11, below.

9. The proposed project involves the replacement of existing facilities for the purpose of increasing system safety and reliability. It will not materially impact existing or potential land uses in the region. The Eden Town Plan does not contain any recommendations contrary to the proposal. Abendroth pf. at 6-7.

10. The proposal will not impact areas of natural or cultural significance. Abendroth pf. at 7.

11. The proposed project will not impact any land conservation measures included in the Eden Town Plan. Abendroth pf. at 7.

Need For Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

12. The proposed project is required to meet the need for present and future demand for service. Energy conservation programs and measures, energy efficiency, and load management will not eliminate the need for the proposed project. Abendroth pf. at 6; findings 4-7, above.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

13. The proposed project will not adversely affect system stability and will ensure greater reliability. Abendroth pf. at 4; findings 4-7, above.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

14. The proposed project will provide an economic benefit to VEC customers and the State. Abendroth pf. at 4. This finding is also supported by findings 15-16, below.

15. The estimated total cost of the proposed project is \$100,000, which includes \$75,000 for the transformers and \$25,000 for installation. Abendroth pf. at 5.

16. The proposed project benefits VEC's customers because it will ensure system reliability and stability. Abendroth pf. at 4-5.

Aesthetics, Historic Sites, Air and
Water Purity, the Natural Environment and Public
Health and Safety

[30 V.S.A. § 248(b)(5)]

17. The project as proposed will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety. This finding is supported by findings 18 through 45, below, which are based on the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8), (8)(A) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

18. The proposed project will not affect any Outstanding Resource Waters of the State as identified by the Water Resources Board. Abendroth pf. at 7.

19. There are no Class I or Class II Wetlands involved with this proposed project. Abendroth pf. at 7-8.

20. There are no streams involved with this proposed project. Abendroth pf. at 9, 11.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

21. The proposed project will not result in undue water or air pollution. This finding is supported by findings 22 through 31, below.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

22. The proposed project is not located in headwaters areas. It meets any applicable health or environmental conservation regulations regarding reduction of the quality of ground or surface waters because of minimal amount of construction and clearing involved. Abendroth pf. at 8.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

23. The proposed project meets applicable health and environmental conservation regulations regarding the disposal of wastes, and will not involve the injection of waste materials

or any harmful toxic substances into ground water or wells. This finding is supported by findings 24 and 25, below.

24. There will be no disposal of any waste material into surface or groundwater. Abendroth pf. at 6, 8.

25. Any construction debris will be disposed of at a state-approved landfill. Abendroth pf. at 6, 8.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

26. The proposed project will not require the use of water. Abendroth pf. at 8.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

27. The proposed project is not located within a floodway. The proposed repairs will not result in any material restriction or diversion of flood waters, increase the peak discharge of a stream in downstream areas, or affect riparian owners during flooding. Abendroth pf. at 8-9.

Streams

[10 V.S.A. § 6086(a)(1)(E)]

28. The proposed project is not located on or adjacent to the banks of a stream. Abendroth pf. at 9, 11.

Shorelines

[10 V.S.A. § 6086(a)(1)(F)]

29. There are no shorelines involved with this proposed project. Abendroth pf. at 9.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

30. As stated in Finding 19, above, there are no Class I or Class II wetlands associated with this proposed project. Abendroth pf. at 9.

Air Pollution

[10 V.S.A. § 6086(a)(1)]

31. The proposed project will not result in unreasonable air pollution because the proposed project does not involve industrial/manufacturing emissions, excessive dust and smoke during

construction, dust or noise from blasting, odors or excessive noise from construction activity, or processing or storage of radioactive materials, and therefore will not cause undue air pollution. Earth disturbance will be minimal. No burning will take place. Abendroth pf. at 8.

Sufficiency of Water And Burden on

Existing Water Supply

[10 V.S.A. § 6086(a)(2)(3)]

32. The proposed project will not require the use of water and will not place a burden on any existing water supply. Abendroth pf. at 8-9.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

33. The proposed project will not result in unreasonable soil erosion or reduce the ability of the land to hold water. The proposed repairs will create minimal soil disturbance; it will be limited to replacement of existing facilities that do not materially affect root systems of the surrounding vegetation. No clearing will take place. Abendroth pf. at 9-10.

Traffic

[10 V.S.A. § 6086(a)(5)]

34. The proposed project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. The proposed repairs will have no impact on the use of any highways or waterways for transportation. Abendroth pf. at 10.

Educational Services

[10 V.S.A. § 6086(a)(6)]

35. The proposed project will not cause any burden on the ability of any of the involved municipalities to provide educational services. Abendroth pf. at 10.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

36. The proposed project will not cause any burden on the ability of any of the involved municipalities to provide municipal services. Abendroth pf. at 10.

Aesthetics, Historic Sites or Rare And Irreplaceable Natural Areas

[10 V.S.A. § 6086(a)(8)]

37. The project as proposed will not have an undue adverse effect on the scenic or natural beauty, aesthetics, historic sites or rare and irreplaceable natural areas. This finding is supported by findings 38 through 41, below.

38. The proposed project will not adversely affect any views, as the substation will look essentially identical to its present configuration after the proposed project is complete. Abendroth pf. at 11.

39. There are no known rare or irreplaceable natural areas, or endangered species at the proposed project site. Abendroth pf. at 10.

40. No clearing will be required for the proposed project. All existing vegetation will be retained. Abendroth pf. at 10-11.

41. There are no known historic sites impacted by this proposed project. Abendroth pf. at 10.

Discussion

Based on the above findings, the Board finds that this project will not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area. In reaching this conclusion, the Board has relied on the Environmental Board's methodology for determination of "undue" adverse effects on aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision. *Quechee Lakes Corporation*, #3W04 1 1-EB and 3W0439-EB, dated January 13, 1986.

As required by this decision, it is first appropriate to determine if the impact of the project will be adverse. The project would have an adverse impact on the aesthetics of the area if its design is out of context or not in harmony with the area in which it is located. If it is found that the impact would be adverse, it is then necessary to determine that such an impact would be "undue." Such a finding would be required if the project violates a clear written community standard intended to preserve the aesthetics or scenic beauty of the area, if it would offend the sensibilities of the average person, or if generally available mitigating steps will not be taken to improve the harmony of the project with its surroundings. The Board's assessment of whether a

particular project will have an "undue" adverse effect based on these three standards will be significantly informed by the overall societal benefits of the project.¹

Given the facts of this case, it would be difficult to find that this project will have an adverse effect on the aesthetics of the area. The natural environment will not be affected by this project because it involves limited construction-type work at the site of existing facilities. The proposed project will not constitute a different appearance to that of the existing substation and there will be no change aesthetically from what presently exists.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

42. The proposed project will not impact any necessary wildlife habitat or known endangered species sites. Abendroth pf. at 10-11.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

43. The only public investment near the proposed project is the road from which the substation is accessed. The proposed project will not affect the use of this road by the public. Abendroth pf. at 11.

44. The proposed project will not unnecessarily or unreasonably endanger the public or quasi-public investments in any governmental public utility facilities, services, or lands, or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to such facilities, services, or lands. Abendroth pf. at 11.

Public Health and Safety

45. All construction for the proposed project shall be in accordance with the requirements of the National Electrical Safety Code. Abendroth pf. at 8.

Compliance With Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

46. The project as proposed is consistent with the Vermont 20-Year Electric Plan. The DPS has determined, in a letter dated January 14, 2003, that the proposed project is consistent with the

1. Consider, for example, reduction in need for power plant or transmission investments, or other social costs.

Vermont 20-Year Electric Plan in accordance with 30 V.S.A. § 202(f), provided that VEC's actions in this matter are consistent with its petition and testimony. DPS Section 202(f) Determination, dated January 14, 2003.

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

47. The proposed project is not located on or near any "Outstanding Water Resource" as designated by the State of Vermont Water Resources Board. Abendroth pf. at 7; finding 18, above.

Existing Transmission Facilities

[30 V.S.A. § 248(b)(10)]

48. The project can be served economically by existing transmission facilities without undue adverse effect on Vermont utilities or customers. Abendroth pf. at 6.

III. CONCLUSION

Based upon all of the above evidence, the proposed construction is of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized in 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the replacement of five 333kVA transformers with three 833 kVA transformers at Vermont Electric Cooperative, Inc.'s Eden Substation, located in Eden, Vermont, in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248, and a certificate of public good to that effect shall be issued in this matter.

Dated at Montpelier, Vermont, this 29th day of January, 2003.

<u>s/Michael H. Dworkin</u>)	
)	PUBLIC SERVICE
)	
<u>s/David C. Coen</u>)	BOARD
)	
)	OF VERMONT
<u>s/John D. Burke</u>)	

OFFICE OF THE CLERK

FILED: January 29, 2003

ATTEST: s/Susan M. Hudson

Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.